

# **Environmental Review Commission**

## ***Status Update on the North Carolina Oil & Gas Regulatory Framework***

**Nov 13, 2013**

**Presented by:**

**North Carolina Mining & Energy  
Commission**



# Senate Bill 820 (2012-143)

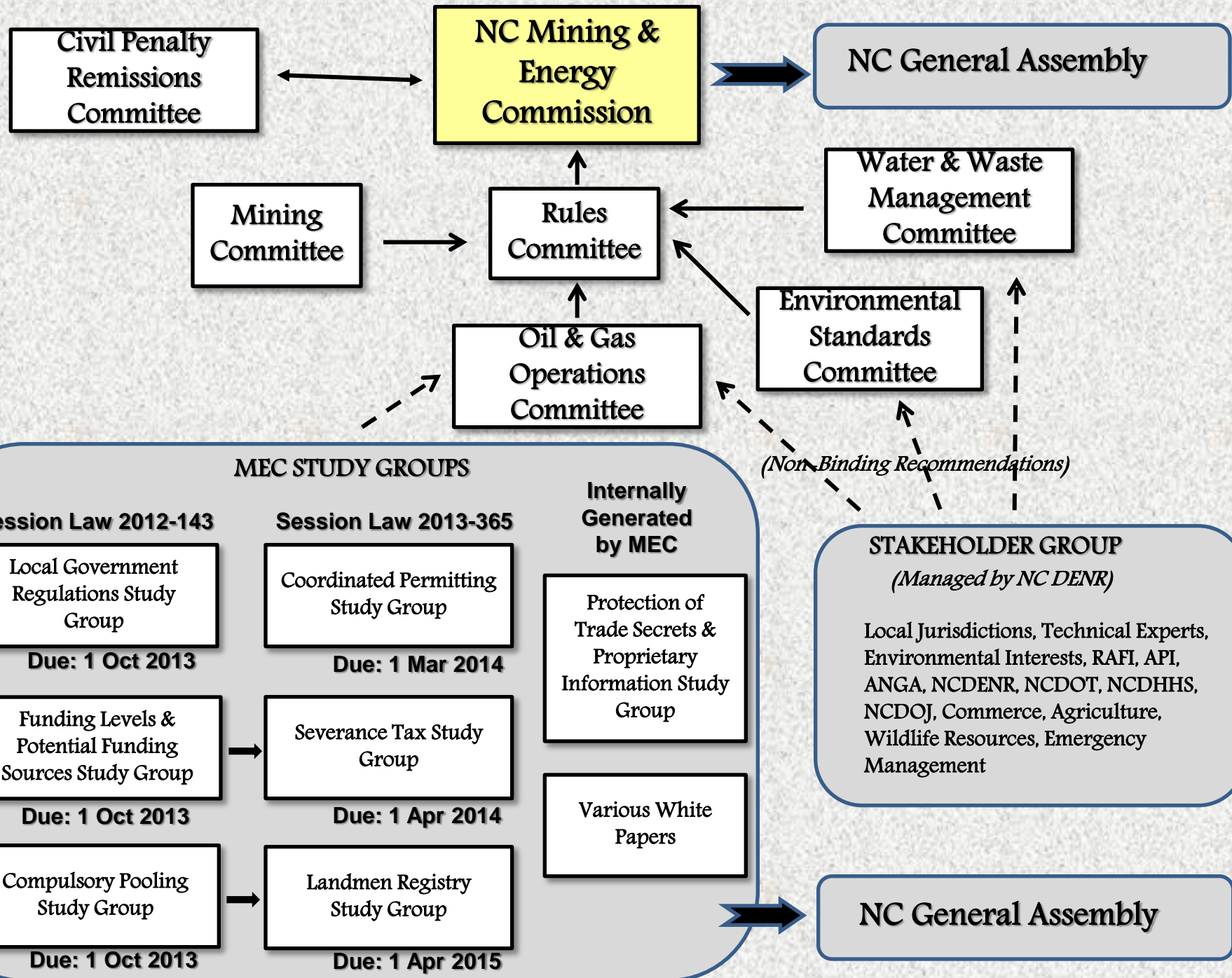
## Clean Energy & Economic Security Act

- Establishes the Mining & Energy Commission
- Requires a Modern Regulatory Program for Oil & Gas Development
- Authorizes Horizontal Drilling & Hydraulic Fracturing
- Enhances Landowner & Public Protections
- Establishes Joint Legislative Commission on Energy Policy

# Senate Bill 76 (S.L. 2013-365)

## Domestic Energy Jobs Act

- Streamlines Regulatory Process by Waiving Fiscal Notes
- Mandates Legislative Review of Rules before Commencement of Drilling
- Requires Special Study of Coordinated Permitting
- Requires Special Study of Landmen Registration and Taxation of Hydrocarbons
- Establishes Energy Policy Council





# MEC Accomplishments

- MEC Constituted by Statute-- 1 Aug 2012
- MEC Sworn In at First Meeting-- 6 Sep 2012
- By-Laws Adopted & Committees Assigned-- 2 Nov 2012
- Staff Research & Presentations Began-- 18 Dec 2012
- DENR Support Staff Hiring Completed-- Jan 2013
- Study Groups Began Meeting-- 8 Feb 2013
- First Rules Passed by MEC-- 3 May 2013
- Study Group Work Completed-- 25 Sep 2013
- Study Group Reports Transmitted-- 27 Sep 2013

# Proposed Future Milestones

- Statutory Change Requests to NCGA-- 14 Jan 2014
- Subsequent Study Group Reports-- Mar/Apr 2014
- Completion of MEC Internal Rule-writing-- 5 Sep 2014
- Public Comment Period-- Sep/Oct 2014
- MEC Adoption of Rule-set-- 15 Nov 2014
- MEC Turnover of Adopted Rules to RRC-- 20 Nov 2014
- RRC Consideration of Rules-- 15 Dec 2014

# Anticipated Development Milestones\*

- 2-D & 3-D Seismic Studies- Nov/Dec 2013
- Analysis & Drill Plan Development- Jan/Feb 2014
- Vertical Well & Core Drilling- Spring/Summer 2014
- NCGA 'Green Light' for Permitting-- O/A 1 Mar 2015
- First Horizontal Wells Permitted- April 2015
- ~5 Wells Completed- 2015
- ~15 Wells Completed- 2016
- ~55 Wells Completed- 2017
- ~140 Wells Completed- 2018

***\*Depends heavily on demand and market price of gas; NGL content in the gas; among other variables.***

# **Committee Updates**

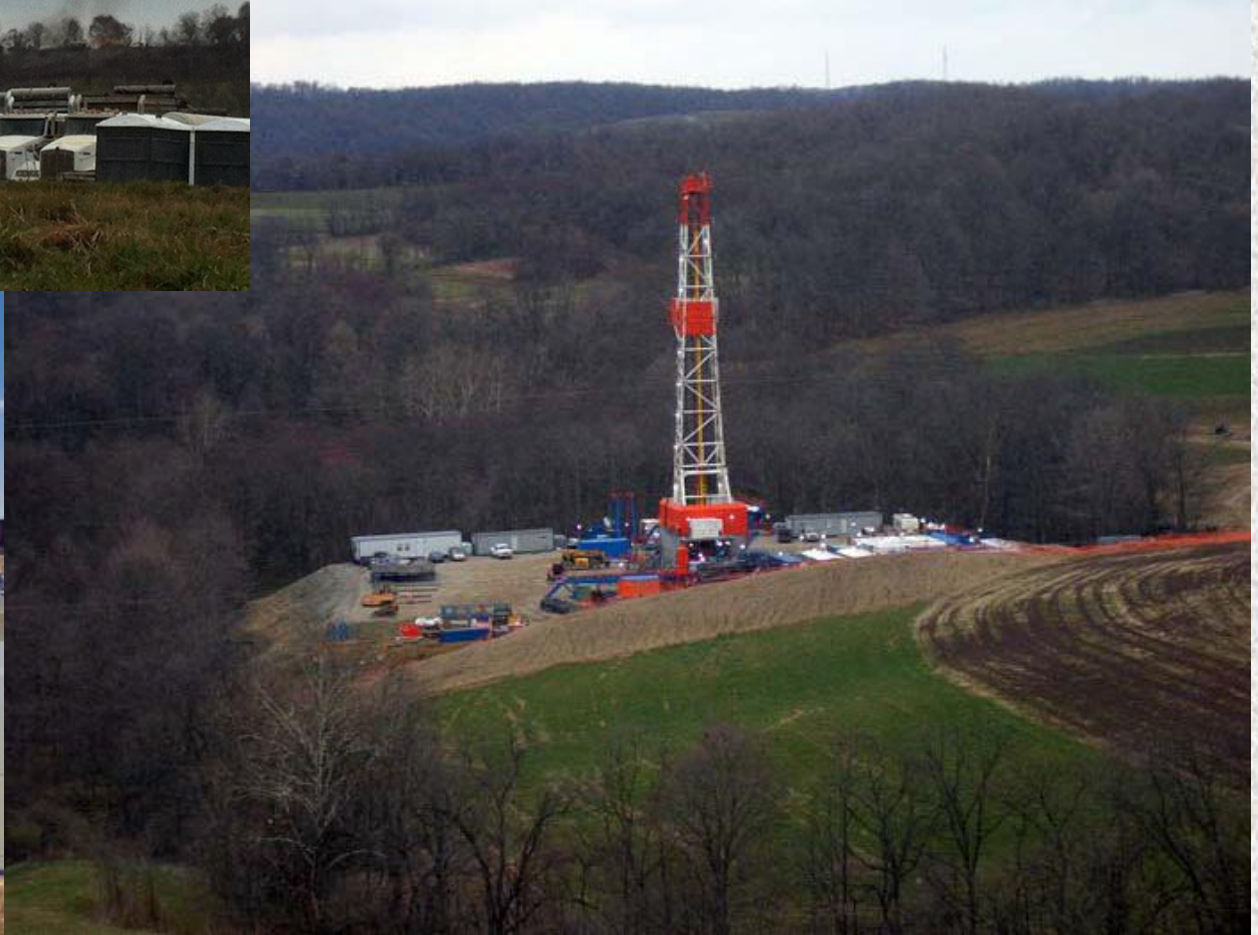


# Administration of Oil & Gas Operations Committee

*Charles Holbrook – Chairman*

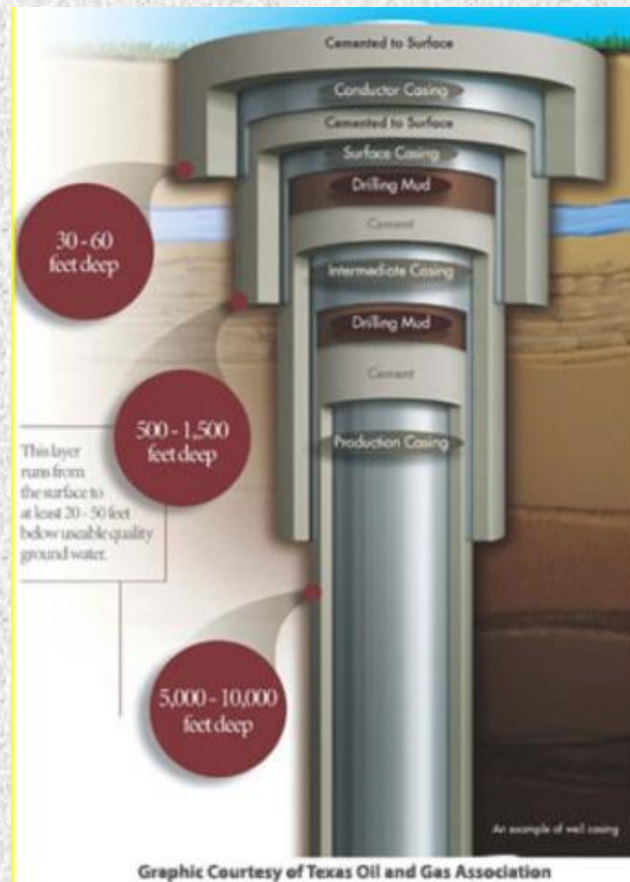
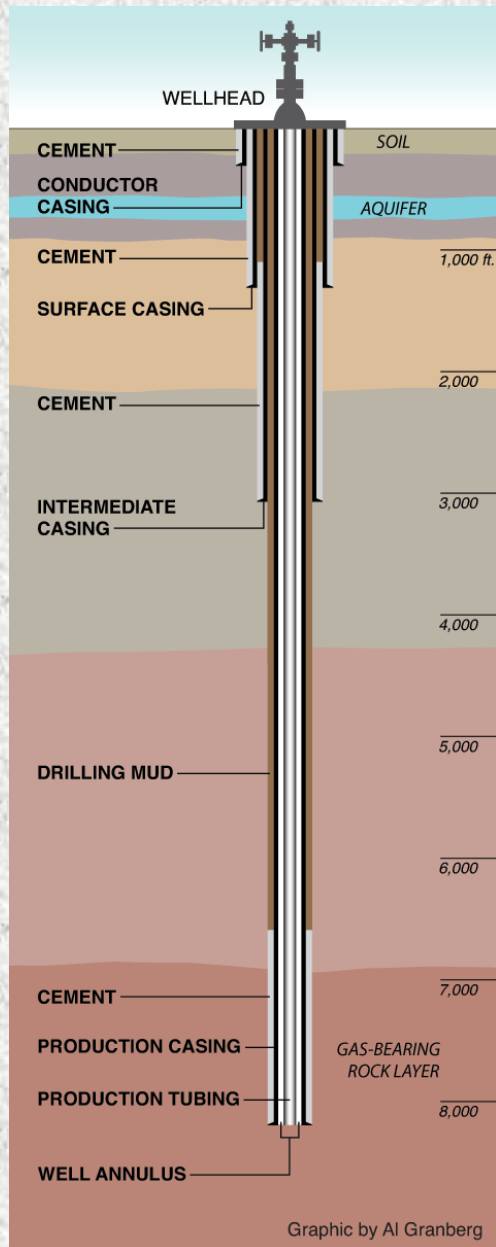
- 70 Rules Assigned
- 22 Rules in Research
- 9 Rules Moved Out of Committee
- 6 Rules Approved by Full MEC
- Target Dates for Rules Completion:
  - Well Development Rules – 22 Nov 2013
  - Site Development Rules – 6 Dec 2013
  - Coordinated Permitting Rules – 31 Jan 2014
  - Unitization & Pooling – 17 Mar 2014
  - Bonding Rules - 6 June 2014
  - Production Rules – 25 July 2014

# Oil & Gas Well Sites





# Well Casing & Cementing



# **Administration of Oil & Gas Operations Committee**

## **Rule-writing Challenges:**

- **Forming Drilling Areas / Units-- Unitization**
- **Compulsory Pooling & Appeals**
- **Rules on Mineral Rights Leasing**
- **Applying Statutory Language on Allowables**
- **Applying Statutory Language on Oil-Gas Ratios**



# Water & Waste Management Committee

*Dr. Vikram Rao*

- 23 Rules Assigned
- 12 Rules in Research
- 7 Rules Moved Out of Committee
- 7 Rules Approved by Full MEC
- Target Dates for Rules Completion:
  - Water Management Rules -- 18 Feb 2014
  - Waste Management Rules -- 4 Apr 2014

# Water Withdrawal and Impoundments



**EXCO**  
**EXCO RESOURCES (PA), LLC**  
**24 Hr. Emergency Contact 888-788-3781**  
EXCO RESOURCES (PA), LLC - 3000 Ericsson Drive, Suite 200 - Warrendale, PA 15086  
**SURFACE WATER WITHDRAWAL**  
From Muncy Creek - Penn Township, Lycoming County, PA  
**SRBC Docket #20111210**  
Effective Date of Approval: December 15, 2011  
Expiration Date of Approval: December 14, 2015  
Peak Day Withdrawal Rate: 1.5 million gallons per day  
Maximum Pumping Rate: 1,041 gallons per minute  
Minimum Stream Passby Flow Requirement: 11,042 gpm  
Contact: Susquehanna River Basin Commission  
1721 North Front Street  
Harrisburg, PA 17102  
Phone: (717) 238-0425  
jnhoffman@srbc.net





# **Water & Waste Management Committee**

## **Rule-writing Challenges:**

- **Class II Injection Wells vs. Water Re-Use**
- **Disposal of Drilling Wastes at Municipal Facilities**
- **Pre-treatment and Discharge of Flow-back Water**

# Environmental Standards Committee

*George Howard – Chairman*

- 25 Rules Assigned
- 17 Rules in Research
- 7 Rules Moved Out of Committee
- 1 Rule Approved by Full MEC
  
- Target Dates for Rules Completion:
  - Chemical Disclosure Rules – 22 Nov 2013
  - Environmental Testing Rules – 14 Jan 2014
  - Aesthetics & Nuisance Rules – 2 May 2014



# **Environmental Standards Committee**

## **Rule-writing Challenges:**

- **Hazardous Chemical Disclosures**
- **Frequency & Scope of Water Testing**
- **Statutory Distance from Wellhead for Water Well Testing**
- **Use of Tracer Agents & Canary Testing**
- **Setbacks Based on Health & Safety Imperatives**

# Rules Committee

*Amy Pickle- Chairwoman*

- 13 Rules Assigned
- 9 Rules in Research
- -- Internal Rules Moved Out of Committee
- -- Internal Rules Approved by Full MEC
- 26 Other Committee Rules Processed to Full MEC
- Target Dates for Rules Completion:
  - Administration & Safety Rules – 8 Aug 2014
  - Final Rule-set for Public Comment – 5 Sep 2014

# **Rules Committee**

## **Rule-writing Challenges:**

- **Statutory Authority for Variances & Waivers**
- **Potential 'Bottleneck' in Rules Committee by Summer 2014**
- **Preparation of Administrative & Safety Rules**
- **Early & Frequent Interaction with RRC**

# Study Group Updates



# Compulsory Pooling Study Group

*Dr. Ray Covington – Director*

- Scope Included Statutory Review, Rules in Other States, Surface Use Agreements, Severed Estates, Pooling, and Unitization
- Participants Included RAFI, NC Conservation Network, NCSU, Commerce, Agriculture, State Employees Credit Union, NC Real Estate Commission, AG's Office, Local Jurisdictions, and the Humphrey Law Firm
- Recommendations—
  - Mineral Rights Clarifications Needed (NCGA Action)
  - Compulsory Pooling of Subsurface Areas Only
  - Surface Use Agreements Required
  - 90% Secured Lease Rule
  - Landowner Protections
  - Cost Sharing
  - Risk Penalty Provisions

# Funding Levels & Potential Funding Sources Study Group

*Jane Lewis-Raymond – Director*

- Scope required the team to estimate the costs for the regulatory program and industry impacts then identify potential sources to address those costs
- Study effort included examination of other states' costs, fees and taxes; break-down of our expected costs into local and state-level categories; development of objective methods for cost recovery; then developing scenarios to help establish levels for taxes and fees
- Participants Included NC DENR, NC DOT, NC Highway Patrol, NC League of Municipalities, NC Association of County Commissioners, Commerce,
- Recommendations—
  - Severance tax for state-level cost recovery
  - Impact fees & trust fund for local cost recovery
  - Ad Valorem taxation
  - Bonds
  - Maintenance Agreements for Municipal Roads

# Local Government Study Group

*Charles Taylor – Director*

- Scope required an examination of and recommendations for reasonable local regulations that do not prohibit oil and gas development
- Participants Included Local Jurisdictions, NC League of Municipalities, NC Association of County Commissioners, UNC School of Government, John Locke Foundation, Morningstar Law, and Impact Properties Group
- Recommendations—
  - Setbacks
  - Noise, Light, & Odor (Nuisance) Enforcement
  - Emergency Preparedness
  - Zoning
  - Infrastructure Impacts & Reimbursements
  - Chemical Disclosure
  - Bonding



# Coordinated Permitting Study Group

*Dr. Ken Taylor – Director*

- Scope is to develop the methods and procedures for a single comprehensive environmental permit for oil and gas exploration and development
- Effort includes examination of the best practices for streamlined, comprehensive, electronic permitting among the other states
- Formal participation from all DENR Divisions
- Emerging Findings & Recommendations—
  - Several states have refined digital application and permitting processes we can borrow heavily from
  - NC DENR can readily adapt the DEMLR process already used for coordinated mining permits
  - Final report to the General Assembly in December 2013
  - Interim recommendations to the Administration of Oil & Gas Committee of the MEC for rule-writing purposes



# Questions?

**Commissioner Jim Womack**  
**Chairman, Mining & Energy Commission**  
**(919) 770-4783**  
**[commissioner.womack@gmail.com](mailto:commissioner.womack@gmail.com)**

**Tracy E. Davis, PE, CPM**  
**Director, Division of Energy, Mineral, and Land**  
**Resources**  
**(919) 707-9200**  
**[tracy.davis@ncdenr.gov](mailto:tracy.davis@ncdenr.gov)**



# **To stay abreast of the activities of the Mining and Energy Commission**

**Join the Shale Gas Listserv at:**

**<http://lists.ncmail.net/mailman/listinfo/denr.shale.gas>**

**Or**

**Visit the Mining and Energy Commission web page at:**

**<http://portal.ncdenr.org/web/mining-and-energy-commission/home>**



# Back-up Slides



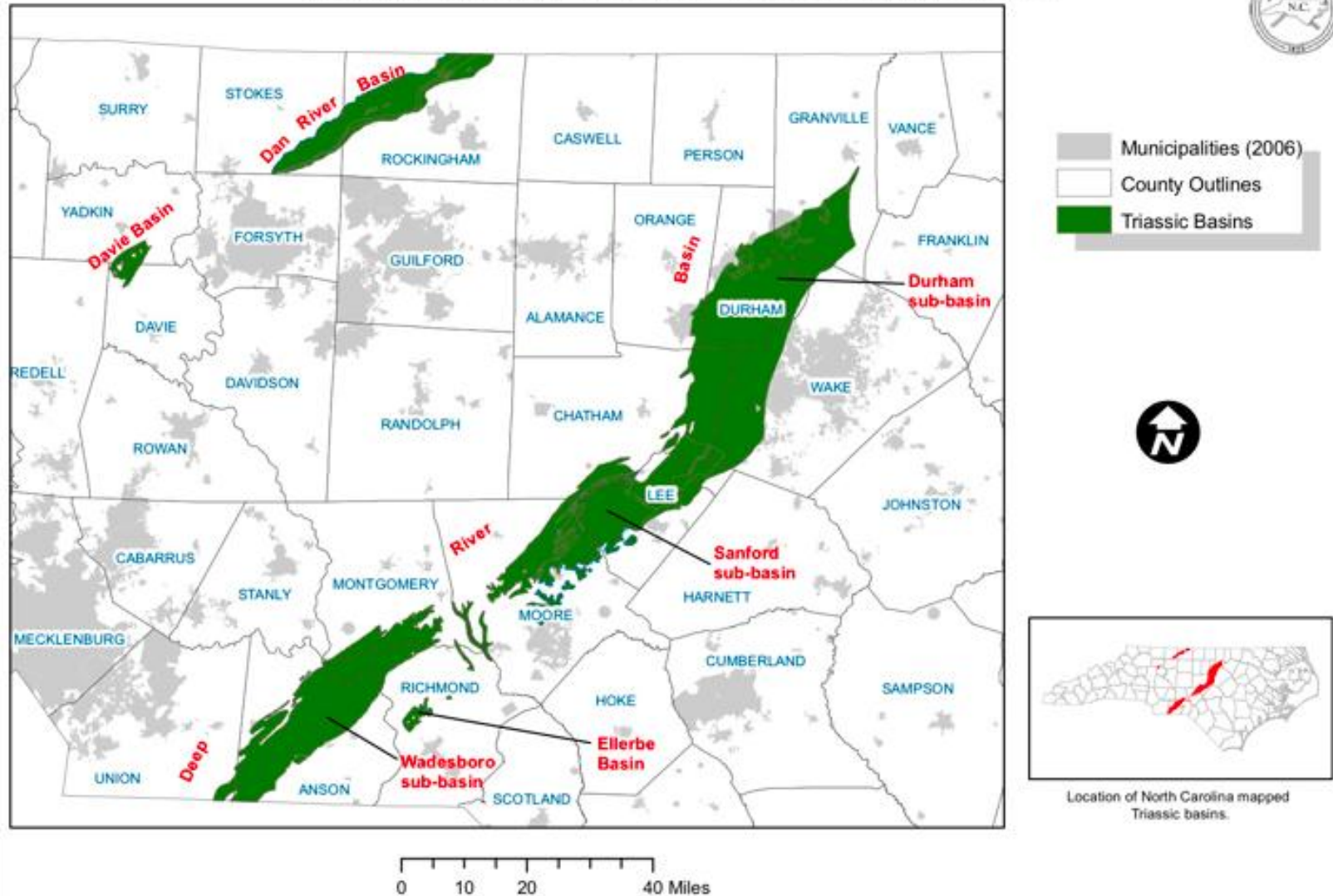
# Protection of Trade Secrets & Proprietary Information Study Group

*Jim Womack – Director*

- Scope Includes examination of existing state statutes and practices protecting trade secrets and other proprietary information
- Participants Include UNC School of Government, Elon University, DENR, Commerce, Dept of Labor, AG's Office
- Emerging Findings & Recommendations—
  - Several areas of oil & gas development involve the handling of trade secrets and proprietary information
  - State statutes do not readily distinguish various protections afforded official documents- trade secrets, confidential information, competition sensitive information, proprietary information, secret information, etc.
  - State sunshine laws may be in conflict with protecting trade secrets when the public's right to know is compelling (e.g., hazardous chemical disclosure)
  - Anticipate completing the final report with statutory recommendations by early 2014.

# Expected NC Shale Gas Reserves

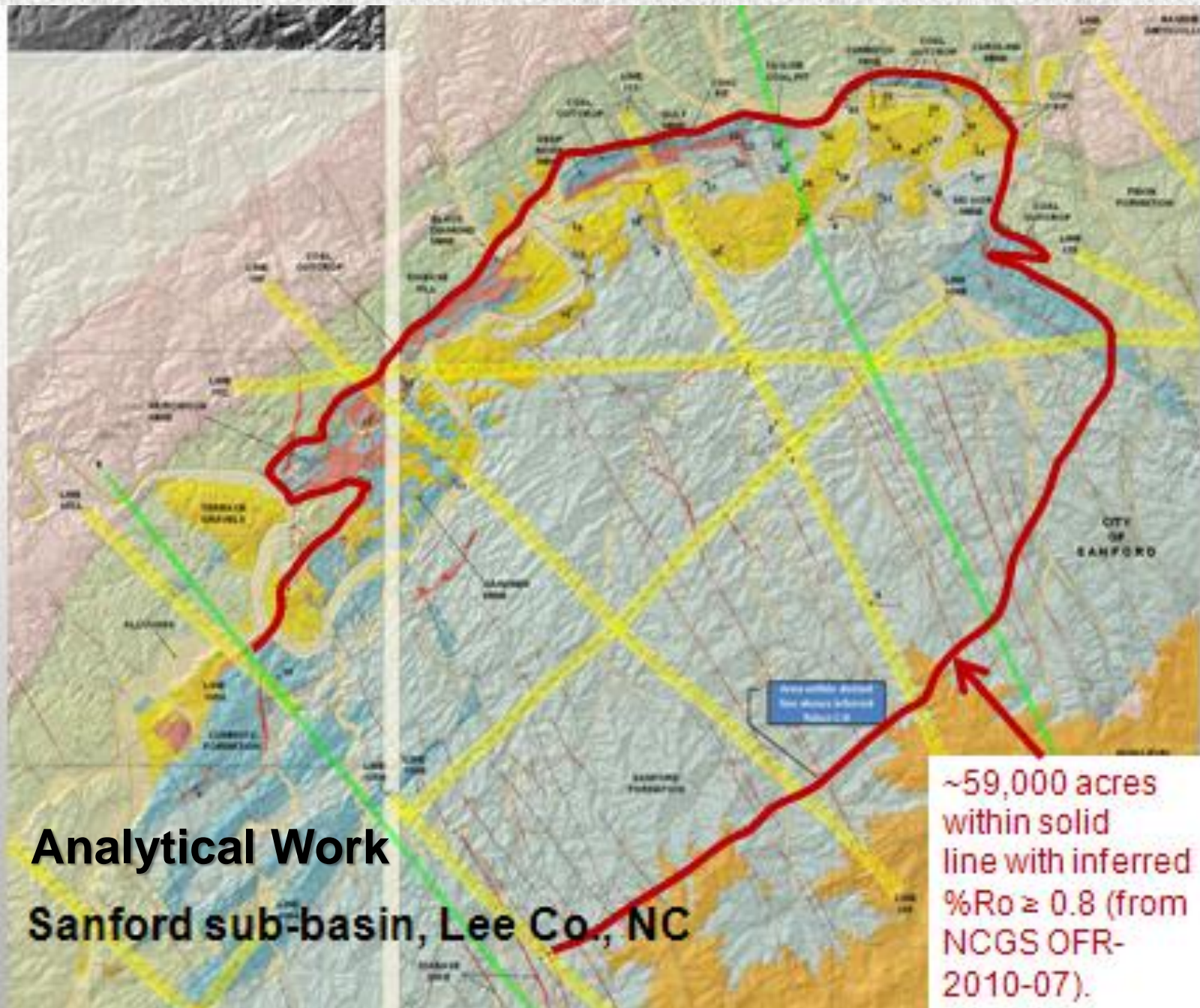
## Exposed North Carolina Triassic Rift Basins





## Analytical Work

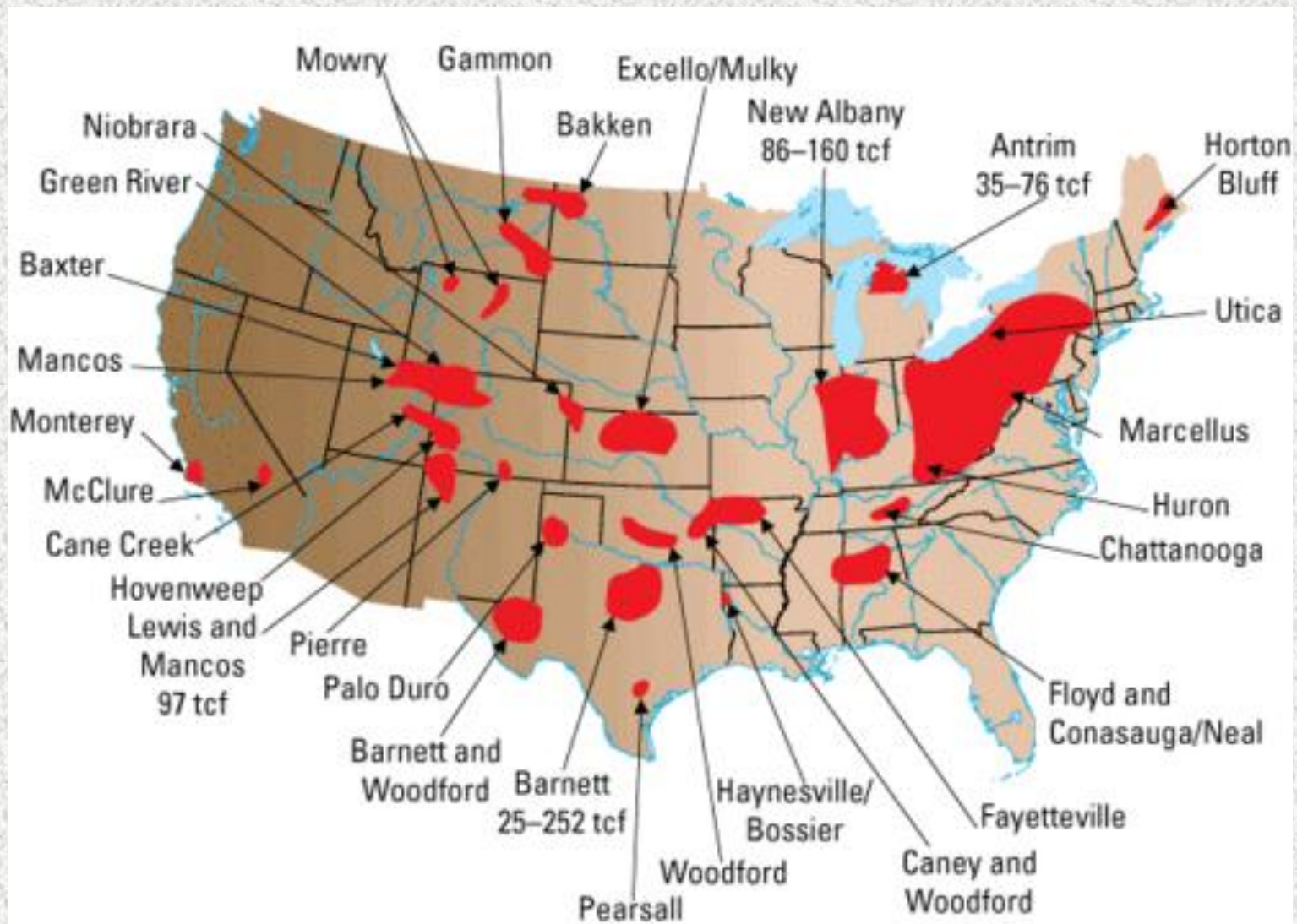
### Sanford sub-basin, Lee Co., NC



~59,000 acres  
within solid  
line with inferred  
 $\%Ro \geq 0.8$  (from  
NCGS OFR-  
2010-07).



# Active Shale Gas Plays in U.S.



## Vertical Separations

### Marcellus Shale Layer

Up to 9,000 feet deep in PA  
3,000-5,000 feet deep in OH

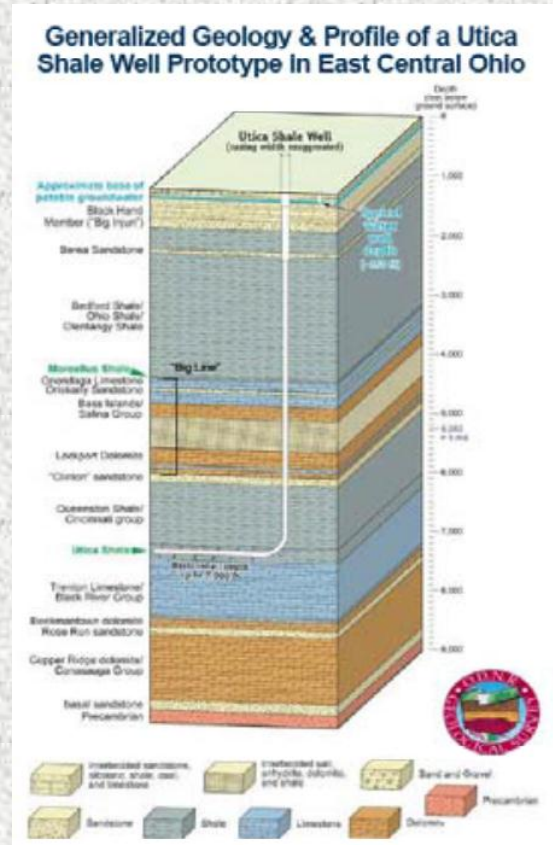
### Utica Shale Layer

As deep as 14,000 feet in PA  
4,000-8,000 feet deep in OH

### Fayetteville Shale Layer

3,000-5,000 Feet deep in AR

Potable groundwater generally above 500' in depth



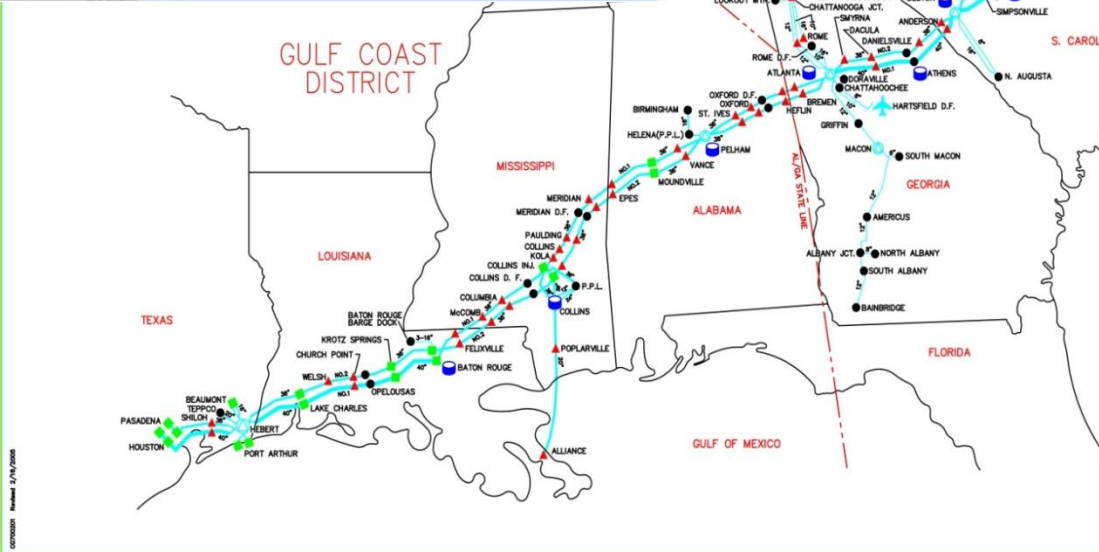
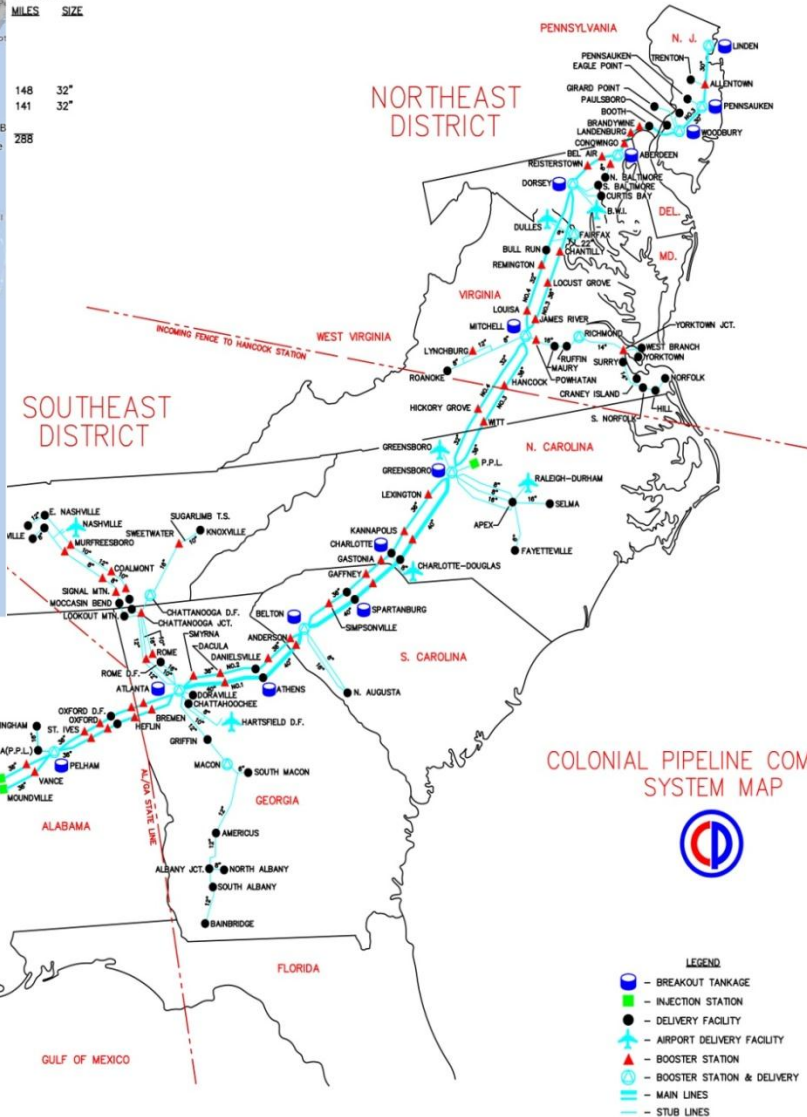


# The Colonial Pipeline System



NO. 4 LINE  
MILES SIZE

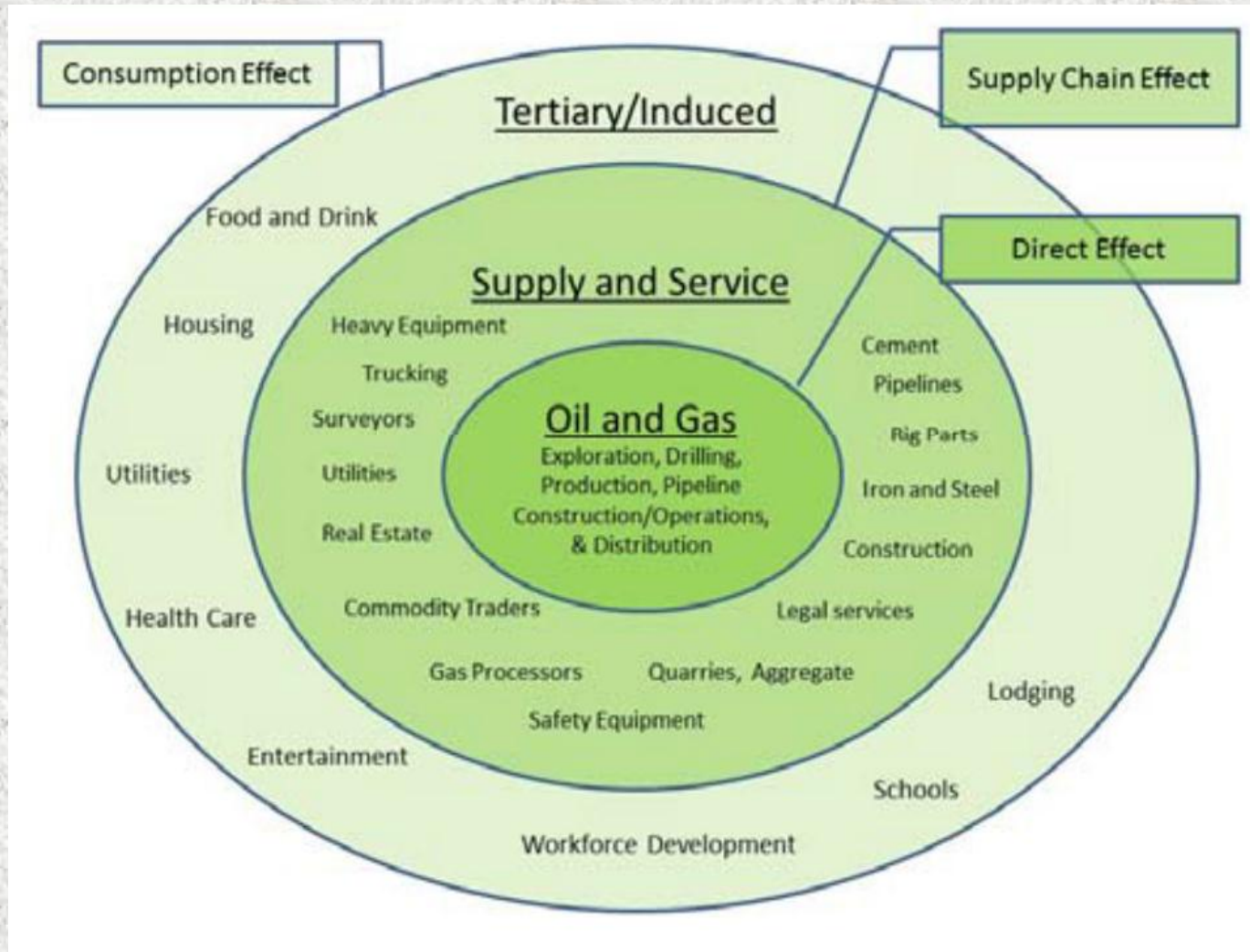
148 32"  
141 32"  
288



01/27/2008 Revised 3/7/2008



# Economic Impacts



# Shale Oil & Gas Potential

- **Direct Economic Lift to Landowners & Government**
  - \$Millions in Royalties from Extraction of Oil, Condensates, Natural Gas, Helium
  - \$Millions in Severance & Ad Valorem Taxes, Impact Fees
- **Direct & Indirect Jobs**
  - Skilled Tradesmen, Service & Support Contractors
  - Hundreds of Secondary Jobs in Motels, Restaurants, Repair Shops, Storage Yards, Equipment Suppliers
- **Cheaper, Cleaner-burning Fuel for Power Generation & Local Consumption**
  - 20+ Years of Sustained Supply of Local Natural Gas

